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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,622	10/25/2001	Nurettin Burcak Beser	JNP-0198	6016

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EXAMINER	
CHO, HONG SOL	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/032,622	BESER, NURETTIN BURCAK	
	Examiner	Art Unit	
	Hong Cho	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/9/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,39,41-46 and 48-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,39,41-46 and 48-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 11/9/2006. Claims 11, 39, 41-46 and 48-57 are pending in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al (US 20020159513), hereinafter referred to as Williams, in view of Vogel (US 6742187).

Re claim 11, Williams discloses receiving bandwidth requests from multiple cable modems (figure 8, element 802), assigning sub-channels associated with different bandwidth and encoding formats (*determining a mini-slot size associated with a*

respective bandwidth allocation request, figure 8, elements 806, 808 and 810; paragraph [0038], lines 22-23) and scheduling transmission on a physical channel from cable modems associated with each of bandwidth requests based on a respective mini-slot size (paragraph [0035], lines 34-35). Williams discloses segregating the physical upstream channel into multiple virtual upstream channels (paragraph [0035], lines 7-9) associated with a different symbol rate (paragraph [0035], lines 9-12), grouping cable modems (users) into a plurality of groups (figure 1, elements 110 and 112) and assigning a different one of the multiple virtual upstream channels to each of the plurality of groups for upstream transmission (paragraph [0038], lines 34-35). Williams fails to disclose a different modulation associated with each of the multiple virtual upstream channels. Vogel discloses associating an upstream virtual channel with different modulation methods (column 6, lines 51-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify sub-channels of Williams to utilize different modulation schemes of Vogel so that the characteristics of sub-channels would be tailored to reflect the type of modem requests as suggested by Williams (paragraph [0039], lines 9-11).

Claims 39, 41-46 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Nose (US 6643295).

Re claims 39 and 46, Williams discloses grouping cable modems (users) into a plurality of groups (figure 1, elements 110 and 112), but fails to disclose that cable modems are grouped based on a latency associated with each of the plurality of groups.

Nose discloses measuring a transmission delay between the central control unit (CMTS) and each terminal (cable modem) (column 4, lines 55-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable system of Williams to separate cable modems into groups based on a delay between the CMTS and the cable modem, as suggested by Nose, so that transmission power levels would be adjusted to accommodate geographically located cable modems. Williams discloses assigning sub-channels with different data rates to cable modems (*assigning a different virtual upstream channels associated with a different modulation, symbol rate or preamble to each of the plurality of groups*, (paragraph [0035], lines 9-12).

Re claims 41, 48 and 57, Williams discloses identifying modems operating at different data rate (paragraph [0034], lines 15-16), assigning bandwidth to the cable modems (paragraph [0034], line 11) and configuring a slower modem to transmit frequent short bursts of data (*allowing a slower cable modems to transmit data proportionately more frequently than faster modems*, paragraph [0041], lines 14-19).

Re claims 42 and 49, Williams discloses modems transmitting data in separate channels (*sending a message, that allocates upstream bandwidth, on each of the different virtual upstream channels*, paragraph [0038], lines 9-11).

Re claims 43 and 50, Williams discloses each message pertaining to cable modems of a group of the plurality of groups assigned to a respective virtual upstream channel (paragraph [0038], lines 11-14).

Re claims 44 and 51, Williams discloses a plurality of sub-channels of differing size (*each virtual upstream channel is associated with a different mini-slot size*, paragraph [0039], lines 6-8).

Re claims 45 and 52, Williams discloses sub-channels associated with different bandwidth and encoding formats (*a different virtual upstream channel associated with a different modulation and symbol rate*, (paragraph [0035], lines 9-12). Williams discloses receiving bandwidth requests from multiple cable modems (figure 8, element 802), determining a mini-slot size based on the modulation and symbol rate of the virtual upstream channel to which a respective cable modem is assigned (figure 8, element 806; paragraph [0038], lines 22-24) and scheduling transmission on a physical channel from cable modems associated with each of bandwidth requests based on a respective mini-slot size (paragraph [0038], lines 34-35).

Re claim 53, Williams discloses grouping cable modems (users) into a plurality of groups (figure 1, elements 110 and 112), but fails to disclose that cable modems are grouped based on a latency associated with each of the plurality of groups. Nose discloses measuring a transmission delay between the central control unit (CMTS) and each terminal (cable modem) (column 4, lines 55-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable system of Williams to separate cable modems into groups based on a delay between the CMTS and the cable modem, as suggested by Nose, so that transmission power levels would be adjusted to accommodate geographically located cable modems. Williams discloses assigning time slots based on network loading (*allocating bandwidth request*

opportunities to each of the different groups of cable modems based on the different latencies associated with each of the groups, paragraph [0041], lines 6-12).

Re claim 54, Williams discloses assigning sub-channels with different data rates to cable modems (*assigning a different virtual upstream channels associated with a different modulation, symbol rate or preamble to each of the plurality of groups*, (paragraph [0035], lines 9-12).

Re claim 55, Williams discloses modems transmitting data in separate channels (*sending a message, that allocates upstream bandwidth, on each of the different virtual upstream channels*, paragraph [0038], lines 9-11) and each message pertaining to cable modems of a group of the plurality of groups assigned to a respective virtual upstream channel (paragraph [0038], lines 11-14).

Re claim 56, Williams discloses sub-channels associated with different bandwidth and encoding formats (*a different virtual upstream channel associated with a different modulation and symbol rate*, (paragraph [0035], lines 9-12). Williams discloses receiving bandwidth requests from multiple cable modems (figure 8, element 802), determining a mini-slot size based on the modulation and symbol rate of the virtual upstream channel to which a respective cable modem is assigned (figure 8, element 806; paragraph [0038], lines 22-24) and scheduling transmission on a physical channel from cable modems associated with each of bandwidth requests based on a respective mini-slot size (paragraph [0038], lines 34-35).

Response to Arguments

4. Applicant's arguments with respect to claim 11, 41, 53 and 57 have been considered but are moot in view of the new ground(s) of rejection.

On the Remark, pages 5-8, Applicants argue that Williams and Nose, either singly or in combination do not disclose grouping cable modems into multiple groups based on latency associated with each of groups. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Williams discloses grouping cable modems into a plurality of groups and Nose teaches measuring a transmission delay between the central control unit (CMTS) and each terminal (cable modem) (column 4, lines 55-57). Therefore, it is the combined teaching of the two references that should be taken into account. In this case the combined teaching of the two references meets all the claim limitations.

Examiner concludes that the rejection of claims stands.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc

Hong Cho
Patent Examiner
12/26/06

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